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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,413

07/19/2006

Kunihiro Mishima

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EXAMINER

DONDERO, WILLIAM E

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,413	Applicant(s) MISHIMA ET AL.	
	Examiner WILLIAM E. DONDERO	Art Unit 3654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 July 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/19/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the roll rotating shaft of the upper guide roll being arranged on the downstream side of the yarn path (Claim 10) and the traverse device having two or more guide rolls arranged parallel to the bobbin rotating shaft (Claim 13) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-10, 18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the apparatus" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 6, the limitation, "a traverse mechanism" in line 4 renders the claim indefinite because it is unclear if this is the same or a different "traverse mechanism" recited in line 2 of Claim 6. For the Office Action below, it is presumed it is the same traverse mechanism.

Regarding Claim 10, the phrase, "is arranged on the downstream side of the yarn path" renders the claim indefinite, because it is unclear what structure the roll rotating shaft of the upper guide roll is downstream of.

Claim 18 recites the limitation "the apparatus" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Nojiri et al. (US-5499776). Regarding Claim 11, Nojiri et al. disclose a fiber bundle traversing device, comprising a traverse guide 2 for guiding the fiber bundle F and a traverse mechanism 6,7,8 of the traverse guide, for traversing the fiber bundle by reciprocating the traverse guide in the bobbin rotation direction by means of the traverse mechanism; wherein the traverse guide comprises, at least, an upper guide roll 2₁ of which the roll rotating shaft is arranged at a position twisted substantially at a right angle to the bobbin rotating shaft 3 and a final guide roll 2_e of which roll rotating shaft is arranged substantially parallel to the bobbin rotating shaft, and the upper guide roll and the final guide roll are arranged, respectively, so that the roll rotating shaft direction of the guide roll and the yarn path direction entering the guide roll have a positional relation twisted substantially at a right angle (Figure 1A).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nojiri et al. (US-5499776) in view of Schubiger (US-296222). Regarding Claims 1-2, Nojiri et al. disclose a yarn path guide for guiding traveling yarn comprising a guide roll 2₁; and a supporting member 5 that supports the guide roll; and

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wherein a fiber bundle F is guided automatically in an original yarn path direction (Figure 1A). Nojiri et al. are silent about the supporting member having a rotating shaft at a position twisted at a right angle to the rotating shaft of the guide roll; wherein the fiber bundle is guided automatically in the original yarn path direction by inclining the guide roll with respect to the yarn path by rotating around the rotating shaft of the supporting member in response to variation of the yarn path; and the rotating shaft of the supporting member crosses the original yarn path. However, Schubiger discloses a guide roll (a); and a supporting member (c,d) that supports the guide roll, the supporting member having a rotating shaft (e) at a position twisted at a right angle to the rotating shaft of the guide roll; wherein an elongate material is guided automatically in the original elongate material path direction by inclining the guide roll with respect to the elongate material path by rotating around the rotating shaft of the supporting member in response to variation of the elongate material path; and the rotating shaft of the supporting member crosses the original elongate material path (Figures 1-2; and Page 1, Lines 36-51). Since both Nojiri et al. and Schubiger teach a guide for guiding elongate material, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the guide of Schubiger for the guide of Nojiri et al. to achieve the predictable result of guiding the fiber bundle along the original yarn path while prevent the edge of the fiber bundle from running against an object that would damage the edges as taught by Schubiger (Page 1, Lines 36-51). Regarding Claims 3 and 19, after substituting the guide of Schubiger for the guide of Nojiri et al., the combination of Nojiri et al. in view of Schubiger discloses wherein α and β have the

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relation $\alpha < \beta$, when an angle between the rotating shaft of the supporting member and the original path entering the guide roll is α (approximately 90° as shown in Nojiri et al.) and an angle between the rotating shaft of the supporting member and the original yarn path coming out of the guide roll is β (an obtuse angle as shown in Nojiri et al.).

Regarding Claim 4, Nojiri et al. in view of Schubiger disclose a manufacturing apparatus of a fiber bundle package comprising the yarn path guide of claim 1 as advanced above. Regarding Claim 5, Nojiri et al. in view of Schubiger disclose a method of manufacturing the fiber bundle package of claim 4 comprising supplying a fiber bundle F to the apparatus (Nojiri et al. Figure 1A).

Regarding Claims 6, 8 and 16-18, Nojiri et al. disclose a fiber bundle traversing device, comprising a traverse guide 2 for guiding the fiber bundle F and a traverse mechanism 6,7,8 of the traverse guide, for traversing the fiber bundle by reciprocating the traverse guide in the rotation direction by means of the traverse mechanism; wherein the traverse guide has a yarn guide mechanism $2_1, 2_2, 2_3, 2_4, 2_e$ for guiding the fiber bundle (Figure 1A). Nojiri et al. are silent about the yarn guide mechanism for guiding the fiber bundle deviating from the yarn path in the original yarn path direction; and the rotating shaft of the supporting member crosses the center of the yarn path. However, Schubiger discloses an elongate material guide mechanism (c,d,e,a,f,g) for guiding an elongate material deviating from a elongate material path in the original elongate material path direction; and a rotating shaft (e) of the supporting member (c,d) crosses the center of the elongate material path (Figures 1-2; and Page 1, Lines 36-51). Since both Nojiri et al. and Schubiger teach a guide for guiding elongate material, it

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would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the guide of Schubiger for the guide of Nojiri et al. to achieve the predictable result of guiding the fiber bundle along the original yarn path while prevent the edge of the fiber bundle from running against an object that would damage the edges as taught by Schubiger (Page 1, Lines 36-51). Regarding Claim 7, Nojiri et al. in view of Schubiger disclose the yarn path guide of claim 1 as advanced above. Regarding Claims 9 and 20, Nojiri et al. disclose the traverse guide comprises, at least, an upper guide roll 2_1 of which the roll rotating shaft is arranged at a position twisted substantially at a right angle to a bobbin rotating shaft 3 and a final guide roll 2_e of which the roll rotating shaft is arranged substantially parallel to the bobbin rotating shaft and the yarn guide mechanism is arranged on the upper guide roll after the substitution of Schubiger as advanced above in regards to claim 6 (Figure 1A). Regarding Claim 10 as best understood, Nojiri et al. disclose the roll rotating shaft of the upper guide roll is arranged on the downstream side of the yarn path (Figure 1A). Regarding Claim 16, Nojiri et al. disclose a fiber bundle winding device comprising the fiber bundle traversing device of claim 6 as advanced above. Regarding Claim 17, Nojiri et al. disclose a manufacturing apparatus, comprising the fiber bundle winding device of claim 16 as advanced above. Regarding Claim 18, Nojiri et al. disclose a method of manufacturing the fiber bundle package of claim 17 as advanced above comprising a method of manufacturing the fiber bundle package comprising supplying a fiber bundle F to the apparatus (Figure 1A).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nojiri et al. (US-5499776). Regarding Claim 12, Nojiri et al. disclose the fiber bundle traversing device of Claim 11. Nojiri et al. do not disclose specific values for the length of contact between the fiber bundle in the final guide roll. However, one of ordinary skill in the art is expected to routinely experiment with the parameters, especially when the specifics are not disclosed, so as to ascertain the optimum or workable ranges for a particular use. Accordingly, it would have been obvious through routine experimentation and optimization, for one of ordinary skill in the art to have the fiber bundle contact the final guide roll for 15 mm or more to insure the bundle maintains its width as taught by Nojiri et al.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nojiri et al. (US-5499776) as applied to claim 11 above, and further in view of Nakai et al. (US-4989799). Nojiri et al. is silent about two or more guide rolls of which the roll rotating shaft is arranged substantially parallel to the bobbin rotating shaft, including the final roll; and wherein the total length of these rolls in contact with the fiber bundle is 25 mm or more. However, Nakai et al. disclose a fiber bundle traversing device comprising two or more guide rolls 7,8 of which the roll rotating shaft is arranged substantially parallel to the bobbin rotating shaft 9, including the final roll 8 (Figures 1-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to add another guide roll with a rotating shaft parallel to the bobbin rotating shaft to the device of Nojiri et al. as taught by Nakai et al. to ensure accurate guiding of the fiber bundle. Further, one of ordinary skill in the art is expected to routinely experiment with the parameters,

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especially when the specifics are not disclosed, so as to ascertain the optimum or workable ranges for a particular use. Accordingly, it would have been obvious through routine experimentation and optimization, for one of ordinary skill in the art to have the fiber bundle contact the two parallel guide rolls for 25 mm or more to insure the bundle maintains its width as taught by Nojiri et al.

Claims 14-15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nojiri et al. (US-5499776) as applied to claim 11 above, and further in view of Schubiger (US-296222). Regarding Claims 14-15, Nojiri et al. disclose the upper guide roll has a yarn path guide mechanism for guiding the fiber bundle, the yarn path guide mechanism comprising a guide roll 2₁; and a supporting member 5 that supports the guide roll; and wherein a fiber bundle F is guided automatically in an original yarn path direction (Figure 1A). Nojiri et al. are silent about the yarn guide mechanism for guiding the fiber bundle deviating from the yarn path in the original yarn path direction; and the supporting member having a rotating shaft at a position twisted at a right angle to the rotating shaft of the guide roll; wherein the fiber bundle is guided automatically in the original yarn path direction by inclining the guide roll with respect to the yarn path by rotating around the rotating shaft of the supporting member in response to variation of the yarn path. However, Schubiger discloses an elongate material guide mechanism (c,d,e,a,f,g) for guiding an elongate material deviating from a elongate material path in the original elongate material path direction; and a guide roll (a); and a supporting member (c,d) that supports the guide roll, the supporting member having a rotating shaft (e) at a position twisted at a right angle to the rotating shaft of the guide roll; wherein an

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elongate material is guided automatically in the original elongate material path direction by inclining the guide roll with respect to the elongate material path by rotating around the rotating shaft of the supporting member in response to variation of the elongate material path (Figures 1-2; and Page 1, Lines 36-51). Since both Nojiri et al. and Schubiger teach a guide for guiding elongate material, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the guide of Schubiger for the guide of Nojiri et al. to achieve the predictable result of guiding the fiber bundle along the original yarn path while prevent the edge of the fiber bundle from running against an object that would damage the edges as taught by Schubiger (Page 1, Lines 36-51).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kikachi et al., Swanke et al., Fife et al., Hou et al., Miyajima, Schulz, Joseph et al., Hamaker et al., and Jamzadeh are cited for disclosing guides rolls that are inclined by rotating shafts at a right angle to the roll rotating shafts for correcting the alignment of traveling elongate material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WILLIAM E. DONDERO whose telephone number is (571)272-5590. The examiner can normally be reached on Monday through Friday 6:30 am to 4:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Cuomo can be reached on 571-272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/W. E. D./

Examiner, Art Unit 3654

/Peter M. Cuomo/

Supervisory Patent Examiner, Art Unit 3654